

### In this issue:

No Matter the Weather – page 4

Hawk Watch-page 8

Droning Over Delaware –page 12

and more!



### **Frontlines**

WITH BIG-PICTURE PROBLEMS like climate change and sea level rise now disrupting our daily lives, how do we stay positive? Issues related to climate change can often seem overwhelming and too big to tackle. But for those of us whose job it is to take on such problems, we have seen victories both big and

small in Delaware. Emissions from coal-burning power plants have been reduced significantly, and electricity use is down by almost 29 million kilowatt hours per year, which saves CO2 emissions equivalent to taking 14,000 cars off the road.

Staying positive is also about learning from the small successes and multiplying our small solutions on a larger scale.

In this edition of *Outdoor Delaware* magazine, we feature a story about the 40th anniversary of DNR EC's Weatherization Program, a prime example of attacking a problem by repeating a

simple solution over and over until the cumulative effect makes a difference in solving a larger problem.

One house at a time, we are insulating ducts, waterlines, crawl-spaces, attics, and walls; sealing windows and doors with weather-stripping; and caulking cracks where air leaks occur. We are saving precious energy which, in turn, reduces greenhouse gasses, and that helps check climate change.

Stewardship and savings can also go hand-in-hand. DNREC's Green Energy Program provides grants and incentives for home-

owners to install renewable energy systems. DNREC partners with utilities to deliver these programs to consumers. Last year, Delmarva Power customers installed 1,095 renewable energy systems with Green Energy Funds.

In addition, 82 megawatts of solar capacity are now operat-

ing in Delaware, 39.1 megawatts of which was installed through the Green Energy Program. Delaware has more than 4,000 solar energy systems on homes, houses of worship, schools, and businesses. The solar industry provides more than 300 jobs in Delaware, contributing an estimated \$12 million in benefits to the state economy.

These are solid reasons to be positive, and excellent ways to take action. From industry to businesses both large and small, to your own home, each of us has a role to play. If we all use

the simple solutions at hand, and the resources that are available through DNREC and other sources, we can all reduce our energy usage, save money, save energy, and help our planet. **OD** 

Sh\_M. S-

SHAWN M. GARVIN, SECRETARY



### STATE OF DELAWARE

### GOVERNOR

John Carney

DNREC SECRETARY

Shawn M. Garvin

**CHIEF, PUBLIC AFFAIRS**Carol Anders Riggs

### MAGAZINE STAFF

### EDITOR

Beth Shockley

### DESIGN

Larry Knox

### CIRCULATION

Matthew Cardona

### PRINTING

McClafferty Printing Company Wilmington, Delaware



Find Us on Facebook Search Outdoor Delaware

Outdoor Delaware magazine is published quarterly by the Department of Natural Resources and Environmental Control, 89 Kings Highway, Dover, DE 19901. Subscriptions are \$8 for one year. Due to nonprofit status, refunds cannot be made. Subscribers may transfer unexpired subscriptions to another party of their choice. Outdoor Delaware welcomes photographs and articles but will not be responsible for loss or damage; return postage must be provided. Permission granted to reprint with proper credit. Telephone: Editor's Office (302) 739–9902; subscription information, (302) 739–9902. The Department of Natural Resources and Environmental Control is committed to affirmative action, equal opportunity, and the diversity of its workplace.

POSTMASTER: Send address changes to *Outdoor Delaware*, DNREC, 89 Kings Highway, Dover, DE 19901. Second class postage is paid at Dover, DE with additional mailing offices.

(ISSN 0045-9852) Document number: 40-01-05/10/17/1 USPS #151-880.



Outdoor Delaware is the flagship, awardwinning conservation magazine of the Delaware Department of Natural Resources and Environmental Control.



Printed on recycled paper



On the cover: Herring Point at Cape Henlopen State Park. © 2017 by DNREC

On the back cover: Farmland in Kent County © 2017 by DNREC



### **Contents**

- **4** No Matter the Weather By Caren Fitzgerald

  DNREC's Weatherization Assistance Program's goal is to make sure no one should have to choose whether to stay warm or save money.
- **8** Hawk Watch: Taking the Pulse of Raptor Health By Dan Linehan Hawks and other raptors are the bellwether for the health of their wider ecosystems. That's why volunteers keep a close watch on them.
- **10 Bird Banding Comes Full Circle** By Doug Norton

  One falcon and one red-tailed hawk, and the story of a photographer who documented their return.
- **12 Droning Over Delaware** *Photos by Mike Polo and Matt Cardona* Catch a bird's-eye view of Delaware's beautiful landscapes.
- 18 Delaware Seashore State Park at 50 By Doug Long
  2017 marks the 50th anniversary of Delaware Seashore
  State Park and the celebration included gathering
  historic snapshots from visitors.



**24** Restoring Delaware Bayshore Habitats By Jeremy Ashe

There is an urgent need to establish habitat restoration to combat the threat of rising sea levels and storms affecting Delaware's Bayshore.

27 Econotes







18

# No Matter the Weather

### DNREC's Weatherization Assistance Program Turns 40

BY CAREN FITZGERALD

T'S A CLASSIC TALE OF SURVIVAL, of grit, of human versus thermostat. Every winter, we stand toe-to-toe with the slowly declining temperature of our homes, clad in sweaters and hats wondering how expensive it would be to bump the heat up just a little bit. It's a terrible choice: stay comfortable or save money?

The goal of DNREC's Division of Energy & Climate's Weatherization Assistance Program is that no one should have to make that choice. For 40 years, the program has been making homes more energy-efficient, comfortable, and healthy for

families and individuals across Delaware.

### What is weatherization?

Your home could be using excess energy in places you rarely notice or expect, making it uncomfortable and ratcheting up your utility bills. Weatherization is the process of stopping unnecessary or wasteful energy use by weather-proofing a home against the elements—wind, rain, snow, heat and cold

Weatherization professionals evaluate homes to find out how much energy is being used, and how families can have a higher level of comfort while lowering



A programmable thermostat allows homeowners to "set and forget" their temperature, making the home comfortable when people are around but lowering or raising the temperature a few degrees when the home is empty. Don't pay to heat and cool an empty house.



that energy use. Professionals recommend and make energy efficiency improvements that protect the home from air leakage, or drafts, keeping warm air in during the winter and cool air in during the summer. They insulate HVAC ducts, waterlines, crawlspaces, attics, and walls, seal windows and doors with weather-stripping, and caulk cracks where air leaks occur. These and other home repairs moderate and hold the temperature of the home.

Weatherization specialists also lower home energy use by providing energyefficient lightbulbs, water-saving measures, and information on everyday actions





that save energy. Lower energy use means lower bills, because you don't pay for energy you don't use. All of these measures add up to significant savings. And the best part? Through the Delaware Weatherization Assistance Program, weatherization work is completed by trained, certified professionals, free of charge for Delawareans who qualify.

### What is the Weatherization Assistance Program?

The Weatherization Assistance Program is a national U.S. Department of Energy program designed to help those struggling



with high energy bills by lowering home energy usage through energy efficiency upgrades. Delaware's Weatherization Assistance Program is managed by DNREC's Division of Energy & Climate. It is free for qualifying households. Funding comes from the U.S. Department of Energy and the Regional Greenhouse Gas Initiative, a region-wide cap-and-trade program that limits pollution from energy generation.

Jerry Spaulding is a staff member in the Delaware Weatherization Assistance Program who has 20 years of weatherization experience. His job includes visiting client homes, evaluating needed improvements and making sure installed measures are effective.

"We evaluate what's appropriate for the type of home, and what will get the most bang for the buck," Spaulding said. "Many changes are simple fixes and may not cost a lot, but they make a big difference in energy usage and cost savings. We also complete larger tasks that are beyond many homeowners' capabilities, like major air sealing, and insulating walls and attics."



A blower door test helps weatherization professionals determine where energy loss may occur in the home, and where drafts need to be sealed.

### Who has weatherization helped?

Over the past four decades, the Weatherization Assistance Program has helped thousands of residents in Delaware alone. Program staff weatherize about 200-275 Delaware homes each year, prioritizing homes with children, elderly individuals, and individuals with disabilities. Eligible homes can be owned or rented, and range from single-family houses and townhouses to apartments and mobile homes.

Mr. John Donovan\*, of New Castle County, participated in the Weatherization Assistance Program in 2015. He lives in a four-bedroom, split-level house with his three children. He said that before weatherization, the home was drafty and cold.

"You could've drove a knife right through it. The outside was nothing but sheetrock and plastic," he said.

This was especially hazardous to Mr. Donovan's son, who has special medical needs.

After weatherization, Mr. Donovan estimates that his utility bills dropped by \$200 a month. That's \$200 more a month that can go toward things like his son's healthcare.

Weatherization helps many households cut their energy bill by 30-50 percent.

When Ms. Annack of Sussex County applied for the program, the electric heat

pump system had failed in the house she shares with her daughter.

"I tried to keep the house as warm as I could—I put plastic over the windows," she said, describing a sealing strategy many use in the winter to keep cold air from slipping into the house. "Things worked out awesome, though, because [the weatherization program] replaced the heat pump." While the program doesn't replace or install dedicated air conditioning units, Ms. Annack's heat pump regulates both heat and cooling.

Weatherization professionals also insulated under the house, around pipes, and in the attic to make sure this new heating and cooling system is effective.

Ms. Annack has noticed a difference year-round.

"It stays a lot warmer than it used to -I used to feel the cold air coming in through the attic steps, and I don't feel it anymore," Ms. Annack said about her home in the winter. In the summer, she said, "When I run my A/C, it doesn't just fly upstairs. It stays a lot cooler a lot longer."

Weatherization is also good for the environment. The less energy a home uses, the more environmentally-friendly it is.

### What is the weatherization process like?

The Division of Energy & Climate works through local non-profits to accept program applications. Go to de.gov/wap or call the Division of Energy & Climate at 302-735-3480 to find out where to apply in your county.

Once the application and all necessary documents are processed, a weatherization specialist evaluates the home and creates a work order for a contractor, who then completes the work.

Weatherization professionals strive to complete work in a timely, safe and unobtrusive manner.

"First and foremost, we take a 'Do No Harm' approach," Spaulding said. "We never just jump right into things—we approach everything in a careful and safe way. This is someone's home. We know and respect that."

"They were just awesome," Ms. Annack said. "They did a very good job, and were cautious about not getting anything on the floor or anything."

Mr. Donovan agreed. "Courteous and nice," he said of the contractors who worked on his home. "And they did a good job cleaning up."

### What doesn't the Weatherization Assistance Program do?

The program only supports home repairs that create energy savings. Sometimes, homes need repairs beyond the scope of weatherization services or that may affect the work weatherization specialists intend to do. In those situations, applicants are referred to other resources, such as the Delaware Sustainable Energy Utility's preweatherization program. When needed repairs are completed, households can then be eligible for weatherization services.

### Weatherization Works

Over the years, Spaulding has witnessed the impact of weatherization on thousands of homes, starting with his own family home as a teenager. "It's kind of followed me," he said.
"Being out in the field talking with families, seeing the difference this makes—lowering their bills so they can use that money to buy clothes for their kids or take care of other basic needs—it is impactful."

"Oh, I would absolutely recommend the program," Ms. Annack said.

She added thoughtfully, "I don't know where I'd be without them."

For more information, visit de.gov/wap, or call the DNREC Division of Energy & Climate at 302-735-3480. **OD** 

\*Name has been changed.

CAREN FITZGERALD IS THE COMMUNITY RELATIONS OFFICER FOR DNREC'S DIVISION OF ENERGY & CLIMATE, AND ENJOYS BEING PET-MOM TO THE CUTEST COONHOUND AROUND.

## What can you do to **lower** your home energy use?

- Unplug electronics and chargers when not in use.
- Have your HVAC system maintenance regularly.
- Use warm bedding and throw blankets instead of turning up the heat.
- Wash clothes in cool water.
- Use a drying rack or clothesline instead of a dryer.
- Turn off lights when you leave the room.





AND DINKEL STARTED counting raptors to sharpen her bird identification skills, and to tap into the collective wisdom of her fellow watchers. But it's the sense of excitement, and of sharing it with friends, that's kept her coming back to the annual Hawk Watch for more than a decade. "You just never know what you're going to see," Dinkel said.

Just the previous week, the watchers at Cape Henlopen State Park sighted a wood stork, rarely found outside southern swamps. Other prize sightings in recent years include a zone-tailed hawk and a



A whiteboard at the Cape Henlopen site tallies hawk sightings for the migration so far.



The rolling hills at the Ashland Nature Center provide an excellent backdrop for one of Delaware's two Hawk Watch sites. The location, operated in partnership with the Delaware Nature Society, attracts thousands of migrating raptors each fall.

northern crested caracara, both of which are typically seen more than a thousand miles south.

On this September morning, the slate gray sky darkened as it reached the horizon until it nearly matched the color of the ocean. Fog, a brisk wind and intermittent rain grounded most raptors, though a peregrine falcon zipped across the shoreline and the first gannet of the season caused a stir.

A group of about a half-dozen watch-

ers scanned the skies looking for birds of prey migrating south or southwest. They watched a pair of resident bald eagles harass an osprey until it dropped its fish into the trees. A small pod of dolphins cruised just offshore, and migrating humpback whales were also spotted.

At Hawk Watch sites around the world, including two in Delaware, professionals join volunteers in collecting data about the number and species of migratory raptors that fly overhead. Because they occupy



David Brown, the professional Hawk Watch counter at the Ashland Nature Center site, scans the skies for migrating hawks. He and others counted more than 4,500 broadwinged hawks on Sept. 23.

the top of their food webs, raptors act as a bellwether for the health of their wider ecosystems.

The decline and recovery of the bald eagle—there were as few as 512 nesting pairs in the lower 48 states by the 1950s—exemplifies the need for watches like this. In recent decades, a small falcon called the American kestrel has been undergoing its own puzzling decline in the Northeast, perhaps due in part to the removal of nesting and hunting perches.

Delaware's Hawk Watch sites contribute to long-term data sets that, when combined with other reports, can inform conservation efforts. Over decades, this data may be able to answer questions about whether climate change is causing birds to migrate sooner.

### Delaware sites offer different experiences

Delaware's two Hawk Watch sites (the second is at the Ashland Nature Center near Hockessin) could not be more different.

The Ashland Nature Center site sits on a small hill in northern Delaware's Piedmont. Surrounded by a restored prairie and gently sloping, forested hills, it evokes the English countryside.

The Cape Henlopen Hawk Watch is in the Fort Miles area on an elevated concrete platform, about 20-by-20 feet, atop a World War II bunker. Its view is incredible, though its exposure to wind is an occasional trade-off.

The sites' topographical differences also dictate the birds that pass. Because hot air currents, called thermals, do not form above water, birds that rely on them to soar—especially large-bodied raptors called buteos—tend to stay away from the coast.

Instead, Cape Henlopen watchers are more likely to see falcons pumping their wings across the beach.

The watch at both locations runs between Sept. 1 and Nov. 30 each year.

### **DNREC** joins partnership

Delaware's Hawk Watch was started about 20 years ago by the Delaware Ornithological Society, said Bill Stewart, who was the nonprofit's conservation chair at the time. Proceeds from a fundraiser supported the hiring of seasonal professional watchers, but the project's long-term viability was in doubt.

In 2010, DNREC started funding a full-time professional observer at both sites



Volunteer Ann Dinkel, a studious note-taker, records a bird sighting at the Cape Henlopen site. She has been volunteering for about 12 years.

during the fall. The society's key role now is to help supply the volunteers whose time helps support the grant. The Delaware Nature Society also hosts the Ashland site.

### How to Hawk Watch

At its core, the endeavor is about counting raptors — there are few wrong ways to do it — but the professionals have developed techniques to hone their efficiency and accuracy.

There is even a special way to scan the sky. It can be tempting to rest your gaze on the horizon, but you'll miss high-flying birds. Watch one of the professional watchers, and you may see their gaze travel up and down, with short jogs to the left or right.

Generally, they use binoculars, though the naked eye can suffice, especially when spotting birds on a background of clouds.

The best way to initially identify a raptor is to look at its shape and flight pattern, said David Brown, the professional watcher at the Ashland site. Ospreys, for example, have a bow or kink in their profile, which can form an "M" shape.

Relying on plumage can be difficult; the raptors are moving quickly. They are often far away and only rarely show their entire body.

Though raptors tend to migrate singly, they can form massive groups, as well. On the morning of Sept. 23, observers at the Ashland Nature Center recorded the passage of more 4,500 broad-winged hawks.

For many watchers, the prime draw is the chance to witness the singular phenomenon of migration. To volunteer Carol Spease, this timeless spectacle is part of the watch's appeal.

"It's amazing to see the birds moving with a purpose," she said.

How to get involved: If you're interested in volunteering for the fall Hawk Watch, email Wildlife Biologist Kate Fleming at kate.fleming@de.state.us or call 302-735-8658. **OD** 

Dan Linehan is a freelance writer who lives in Delaware City.



HAVE BEEN A WILDLIFE photographer for many years. One of the highlights of wildlife photography is being able to contribute to science and research, and reporting birds that have been banded

is a major step forward. This type of identification is difficult without a camera. Birds rarely sit still for any length of time, no matter how nicely you ask.

The advantage of photo-capturing banded birds is that the date and time are recorded along with a visual record of the species, leaving little doubt about the identification. Bands are usually small, can

contain as many as nine numbers and are usually not meant to be read in the field. They are most often collected post mortem.

report them.

Red-tailed hawk: With in a high resolution

photo you can pick out the band numbers as

well as a telephone number and website to

My first successful band report was on a peregrine falcon I photographed in October of 2016. I was able to read the numbers but I had no idea where to report the band. What I found online wasn't very helpful. But I got very lucky. I had help from a friend who knew the person who actually banded the bird before it fledged. She was then able to direct me to the proper agency for reporting.

The nice part about reporting a band is getting a certificate of appreciation from the U.S. Geological Survey (USGS). The North American Bird Banding Program is jointly administered by the USGS and the Canadian Wildlife Service. Both banding offices have similar functions and policies and use the same bands, reporting forms and data formats. Joint coordination of the program dates back to 1923. On the certificate you get detailed information on the bird and its history. In the case of the peregrine falcon, I found out I was the first person to report the bird after it fledged, and the bander is always happy to know their bird is alive and well.

I must have been on a roll. This past June I encountered a red-tailed hawk in my backyard that had captured a bird and was on the ground for a considerable amount of time while it was feeding. I had just enough time to get my camera and photograph it. While reviewing the images I spotted a band on one of its legs. Having many images of the bird from dif-

ferent angles I was able to read all nine numbers off the band. This time, the banding agency website and phone number were also visible, which made reporting this hawk so much easier.

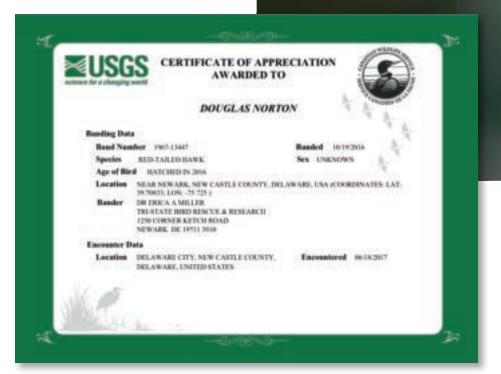
When I received my certificate of appreciation from the U.S. Geological Survey, the bander was listed as Dr. Erica Miller at Tri-State Bird Rescue & Re-

search in Newark. Betting she might want some nice images of her red-tailed hawk, I contacted Rebecca Stansell at Tri-State through email to let her know I had photographed and reported their bird.

It turns out that the hawk was actually a patient there. Dr. Miller was surprised and delighted when she saw the photo-



The red-tailed hawk was getting some sun after finishing its meal. I was able to get another angle and see some more of the nine numbers on the band.



A Certificate of Appreciation issued by the USGS for a successful reporting of a banded bird. It contains information such as the species, age and location where the bird was banded. It also includes the date of your encounter with the bird.



graphs. "This was a young red-tail we had in our care last year," she said. Its recovery was a joint effort between Tri-State and City Wildlife, a rehabilitation center in Washington, D.C., after it was found with rodenticide toxicosis. Many pest-control methods have unintended consequences for wildlife. Rodenticides can weaken rodents for several days before they die, making them easier prey for animals like owls and hawks. "Thank you so much for letting us know. It's so exciting to see the bird is healthy and hunting," she said.

I feel very fortunate to have been a part of contributing not only to the science and research of banded birds, but to the human side as well. I now realize that there is far more to banding birds than just tracking their movements. More people are connected to these birds behind the scenes than I could ever have guessed. Each bird has its own story and its own history. Uncovering these stories has been very rewarding and makes that certificate much more meaningful.

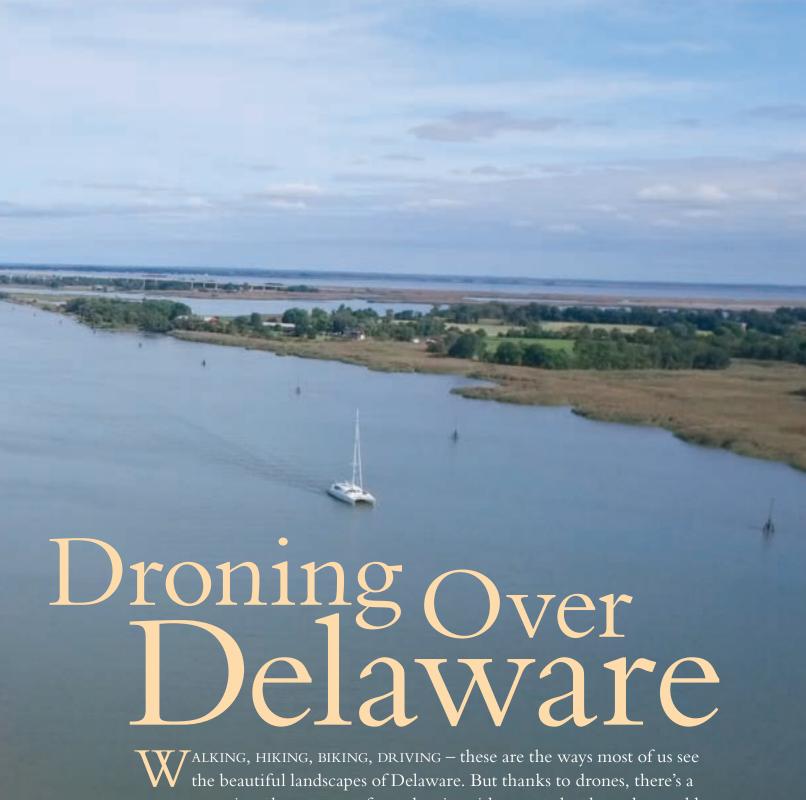
If you observe a banded bird or capture

a band image, the first place to start your report is the following web site or phone contact here:

www.reportband.gov 1-800-327-BAND (2263) **od** 

DOUG NORTON, A FREQUENT CONTRIBUTOR TO OUTDOOR DELAWARE, IS AN AVID NATURE PHOTOGRAPHER (DNORTONPHOTO.COM) AND LIVES IN DELAWARE CITY.





new way to view the scenery - from the air, with new technology that enables us to see the topography from a bird's-eye view.

Some of these images will be quite familiar, but some maybe not. Take a look, as Outdoor Delaware drones over the First State.





Ashton Tract in the Augustine Wildlife Area near Port Penn offers incredible views of the Delaware Bayshore.

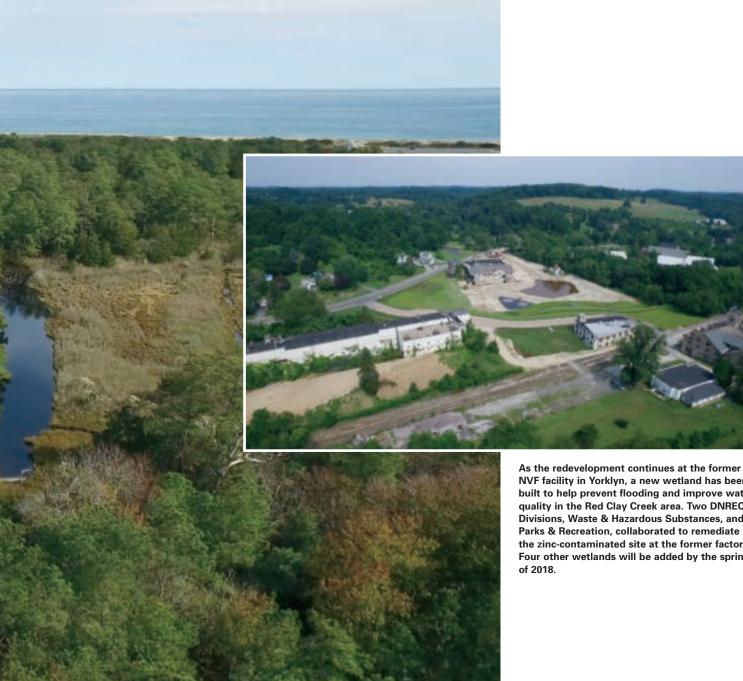




Farmland in Kent County.







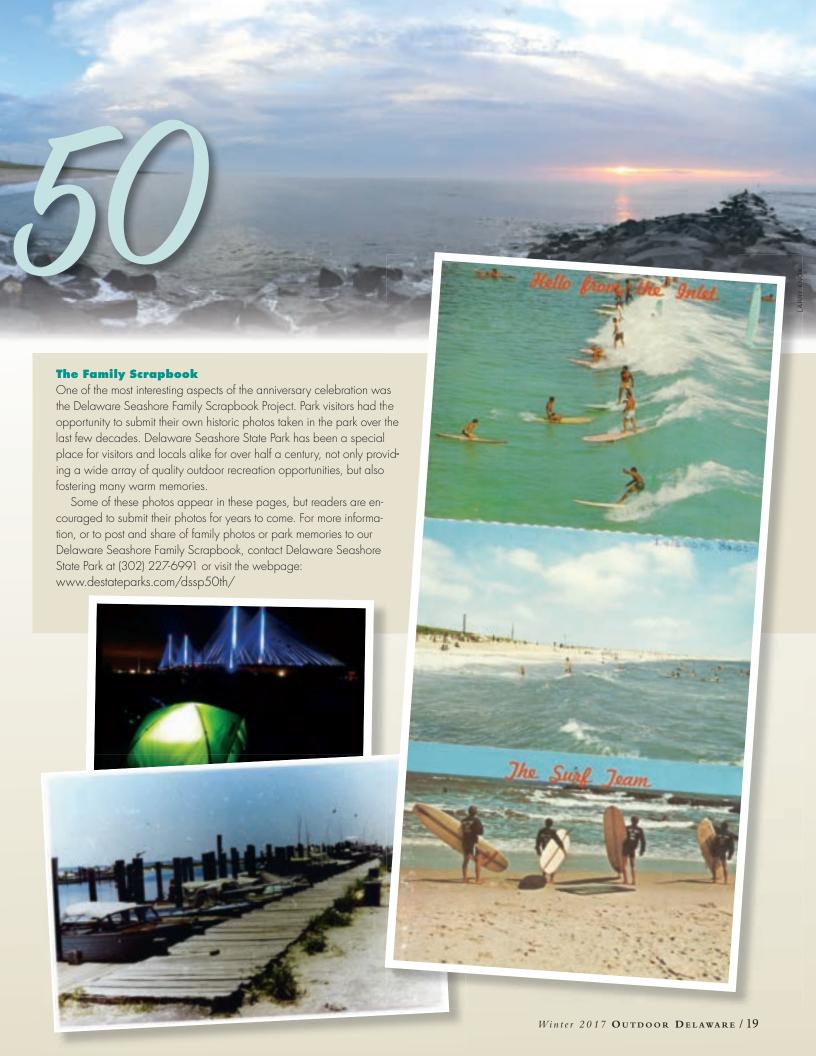
Gordons Pond at Cape Henlopen State Park.

NVF facility in Yorklyn, a new wetland has been built to help prevent flooding and improve water quality in the Red Clay Creek area. Two DNREC Divisions, Waste & Hazardous Substances, and the zinc-contaminated site at the former factory. Four other wetlands will be added by the spring



DNREC's Matt Cardona prepares the drone for another series of photos.







### A Brief History

By Doug Long



n icy nor'east gale blew hard all day, into the next, and even into a third winter day in early March. The relentless wind and heavy winter surf, along with higher than normal tides, eventually forced a surge of ocean water through dunes, pouring down side streets and carrying tons of sand and debris in its wake. Coastal Delaware locals soon realized something menacing was happen-

ing as tides refused to drop and beaches disappeared. When ocean front property began collapsing into the raging surf, and even bayside and inland properties were soon underwater, this Ash Wednesday Storm or Great Storm of 1962, as it would later be known, changed the makeup and attitude of Coastal Delaware forever.

Prior to March 1962, the lands south of Dewey Beach and around the Indian River Inlet were regarded as surplus property and were managed by the Delaware State Highway Commission (later to become the Delaware Department of Transportation). Camping and other outdoor recreational activities had taken place in a hodgepodge, unofficial manner since after World War II, as visitors were drawn to the open spaces and beautiful beaches of the Delaware Coast.

The March 1962 storm essentially flattened everything along the coast in one of Delmarva's worst weather events in history. Officials, alarmed at the vulnerability of the area, closed it to future camping, fearing, probably rightly so, for the safety of visitors.

However, the five-mile stretch of coastal beach near the Indian R iver Inlet was more than a great place to fish and camp. Visiting there had become a way of life not only to Delaware residents, but also residents of Philadelphia and Chester, and visitors from other cities looking to beat the heat and enjoy their new-found leisure time as a result of the post-World War II economic boom.

Legend has it a "wagon train" of campers and anglers drove up to the Delaware Statehouse in Dover to protest the closure. Fortunately, this and other events helped transfer these lands from the Highway Commission to Delaware's then-State Parks Commission. Later, in 1967, Governor Charles Terry Jr., would sign into legislation the official creation of Delaware Seashore State Park.

Today, Delaware Seashore State Park covers more than 2,800 acres, including several ocean and bay fronting recreation areas, three modern campgrounds, the Indian River Marina and The Cottages at Indian River Marina, the historic Indian River Life-Saving Station and much more. **OD** 

Doug Long is Superintendent of Delaware Seashore State Park.





Fifty-eight Youth Conservation Corps (YCC) members spent 14,000 hours this summer in DNREC's Delaware State Parks removing hundreds of acres of invasive plants, cleaning, painting, staffing park offices, planting, mulching and much more.

# My Summer in the YCC BY ABIGAIL MCGOWAN

RESH SNOW CRUNCHES under my new boots as I walk my dogs along the trail. My cheeks are red and the small icicles in the air prick my cheeks as we walk. It's mid-morning on Christmas Day, my two dogs' favorite time of day. Each Christmas holiday my family and I take a "Christmas Walk" through Brandywine Creek State Park. No matter the weather, or the amount of cooking that needs to be done, we load our Rottweilers in the car and whisk them off for their special present.

Being in one of Delaware's beautiful state parks on Christmas Day is a special memory of mine, one of many memories I have had in a state park. My family has been visiting state parks for as long as I can remember. Bellevue is two minutes from our house, and we are avid fans of Cape Henlopen's beautiful beaches. The state parks annual pass has been proudly displayed on any car we have owned. I have always admired Delaware's State Parks, and



YCC members rake mulch around the playground at Trap Pond State Park.

when I was presented with the opportunity to spend my summer working for them, I was ecstatic.

As a second-generation Youth Conservation Corp employee, the only exposure I had to the program was listening to stories about my Dad's experience. I knew that I would be working at a park during the summer and would have to participate in weekly education days, but that was about all I knew about the program at that time.

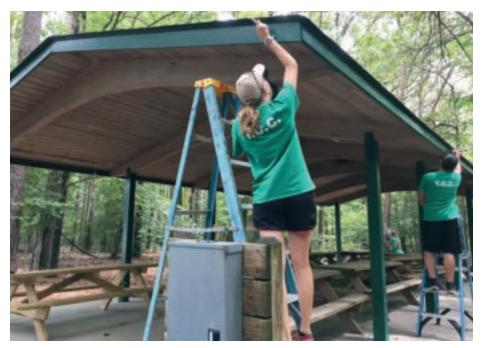
I applied to work at Auburn Heights Preserve, a site I only knew a small bit about. I worked in nearby Yorklyn the previous summer, fell in love with the area, and jumped at the opportunity to return. I had no expectations for the program or worksite.

But now, as I finish my summer of work I am extremely happy that I was lucky enough to spend it with YCC.

### Why in the parks?

DNR EC's Division of Parks & Recreation is a diverse organization to work for. There are maintenance workers, paralegals, marketing offices, historic interpreters – you name the jobs, and I'm sure parks employees perform them. One of the benefits of working for a program like YCC is this diversity of work choices. Teens have a list of options for summer jobs. They can work for the Green Team and travel the parks as jacks-of-all trades, work in an office, in





YCC member paints a pavilion at Killens Pond State Park.

boat rentals or in maintenance. But anywhere they work, or what job they choose, teens are sure to find something they are passionate about.

Our state parks have much to offer potential employees. But this diversity, along with the unique beauty each park possesses, is surely a strong attraction. In addition to the YCC program, the Division hosts an internship program, which is as equally diverse as YCC, with students working in education, engineering, hospitality, the performing arts and more. Whether young adults are interested in the Youth Conservation Corp or the internship program, I highly recommend applying for a job in our parks.

### The Benefits

YCC is not the typical summer job that most teens complain about. The program follows five values: conservation, observation, resources, professionalism and service. Each education day focuses on a different value. But these education days aren't lectures on how we can live these values; they are fun and informative days. Some themes this summer included water conservation, Leave No Trace, ethics of service and career day. We canoed across Lums Pond, flew through the Go Ape zipline course, toured historic Dover and met with state parks professionals to learn about possible careers. Not only do you

get paid to participate in all these amazing trips, but you get to meet other YCC employees. These other employees make every day even more fun, each adding their unique parks experience to the program.



YCC member spraying to help remove invasive plants at the Junction & Breakwater Trail in Cape Henlopen State Park.

My summer at Auburn Heights has given me the skills and resume-building items that no job has given me before. I am more confident in my abilities in a professional setting, I have written press releases, social media posts, orientation packets, advertisement flyers, and given tours of the beautiful mansion to multitudes of people. I have had to be flexible and manage multiple tasks at once, and as my to-do list grew, I became a more balanced employee.

I am also more confident in my judgment, and take initiative more easily. Before YCC, I was timid and felt the need to

check with my supervisor before making the tiniest of decisions. Since working at Auburn Heights and participating in YCC, my work capabilities have matured exponentially. I can make my supervisor's day easier by working harder and completing tasks quickly and efficiently. She can rely on me, something I pride myself on every day. My public speaking has improved, my organizational skills have been tested, and I have been forced out of my shell.

YCC was not just a summer job for me; it set me up for the rest of my college career. I take pride in the work I have completed at Auburn Heights, and I am thankful that the Youth Conservation Corp program has given me the immense opportunities I have had this summer, while helping me to become a better employee. Even though working for the state parks isn't my intended career path, working with adults in a professional setting is excellent practice for any young adult. If you are considering working for DN-REC's state parks, or need a summer job to help you beef up your resume, I highly recommend applying for a position in the Youth Conservation Corp.

Note: The DSPYCC is committed to engaging young people age 16 to 21 in important conservation and park projects while providing learning that fosters teamwork, self-esteem, social responsibility and respect for the environment.

Core components include:

- Practical job work experience
- Outdoor learning opportunities and experiences
- Job and/or college preparation

For more information on how you can get involved: Visit our website www.destateparks.com/ycc **OD** 

ABIGAIL MCGOWAN IS
A SOPHOMORE BIOLOGY
MAJOR AT WASHINGTON
COLLEGE. SHE IS A MEMBER
OF THE WOMEN'S VARSITY
FIELD HOCKEY TEAM, AND



ENJOYS SPENDING TIME WITH HER TWO ROTTWEILERS.

# Delaware Bayshore habitats for 1 today and tomorrow

BY JEREMEY ASHE

HE DELAWARE BAYSHORE'S scenic landscape is brimming with diverse habitats that benefit local communities, outdoor enthusiasts, and a wide variety of fish and wildlife species. But this beautiful landscape is being altered by rising sea level and more frequent and severe coastal storms, resulting in both gradual and sudden changes, and the loss of fish

and wildlife habitats. There is an urgent need to establish habitat restoration efforts to combat these changes and losses. DNR EC's Division of Fish & Wildlife has begun two such key habitat restoration projects within the Delaware Bayshore: Mispillion Harbor and coastal impoundments

The Mispillion Harbor is located where



A stone dike protects the Mispillion Harbor and its associated habitats after restoration.



the Mispillion River and Cedar Creek come together, and drains into the Delaware Bay through a stabilized inlet. The harbor contains the highest numbers of spawning horseshoe crabs in the Delaware Bay. It also attracts some of the largest concentrations of migratory shorebirds that feed on horseshoe crab eggs, including the red knot, listed as a threatened species by the federal government and as a state endangered species.

Historically, the harbor was protected by a large dune system and a stone jetty. Horseshoe crabs enter the harbor through the inlet and spawn on protected beaches along the west side of the dune system and jetty. Unfortunately, sea level rise and increased coastal storm frequency and severity resulted in several breaches of the dune system and frequent overtopping of the jetty, causing erosion and loss of most of the horseshoe crab beach spawning habi-



tat. All that remained was a small remnant of beach habitat called Back Beach on the north end of the jetty. This little oasis was the only remaining horseshoe crab spawning habitat within the harbor and was vulnerable due to another breach north of the jetty.

This remnant horseshoe crab spawning habitat barely survived Hurricane Sandy in 2012 and was targeted for restoration using National Fish and Wildlife Foundation Hurricane Sandy Relief Funding. The project goal is to raise the height of the existing stone jetty and broaden its slope to withstand the increasing barrage of coastal storm waves. Behind this fortified jetty and along the remnant dune system, 40,000 cubic yards of sand was placed to restore a low-profile beach. The project also involves installing two new stone groins extending into the harbor perpendicular to the jetty, to prevent sand from flowing into



Aerial photo of the Mispillion Harbor restoration site depicting the north terminal groin (top end of the beach), restored beach and restored wall/groins.

the navigation channel while also creating additional beach habitat for horseshoe crabs to spawn.

Upon its scheduled completion by April 2018, the Mispillion Harbor project will

provide stable and expanded beach habitat for horseshoe crab spawning and shorebird foraging and resting. Fortunately, the large section of beach that has already been restored attracted both horseshoe crabs and migratory shorebirds during the spring of 2017. This project is just one example of adaptive habitat restoration to protect wildlife habitat and associated infrastructure.

### Coastal impoundments

Large coastal impoundments are another important Delaware Bayshore fish and wildlife habitat. Impoundments are tidal marshes around which elevated dikes were constructed in the 1960s to control mosquitos. Once diked, it became apparent that impoundments also provided valuable habitat for waterfowl and shorebirds.

The impoundments were flooded each fall and into the winter to provide water-





Replacement water control structure allows for managed water control to provide essential habitat for waterfowl, shorebirds and other species.

fowl resting habitats by pumping water from adjacent tidal waterways using diesel pumps, with the water then allowed to evaporate by the next spring and summer to provide mudflat habitats for shorebirds and to minimize mosquito production.

This approach was productive for years. However the repeated evaporation of the brackish water caused soil salinity levels to increase to a level preventing marsh vegetation growth. The inability to grow marsh vegetation led to the degradation of the marsh habitat and associated decline in wildlife species diversity.

To address this issue, DNREC's Division of Fish & Wildlife successfully designed and installed several water-control structures in 1985 that allowed precise

management of water levels by raising and lowering water levels through managed tidal exchange. This management approach of regular flooding and flushing of the impoundments allowed soil salinity concentrations to decrease over time, resulting in the successful regeneration of vegetation.

But today, the impoundments face great threats from sea level rise, more severe storms that breach impoundment dikes, marsh sinking that limits plant growth and creates excessive open water, and deteriorating water-control structures. These threats were underscored when hurricanes and nor'easters ultimately destroyed the large impoundments at the nearby Prime Hook National Wildlife Refuge.

DNREC's Division of Fish & Wildlife used additional Hurricane Sandy Relief Funding in 2014 to restore water control within the Ted Harvey south and Little Creek impoundments located within the Division's wildlife areas east of Dover.

State-of-the-art water-control structures were installed in both impoundments to optimally manage water levels through precise water drawdowns and flooding at strategic times during the year. Managing water at lower levels during the spring and summer enhances the growth of water-fowl food. Higher levels during the fall and

winter make the food more accessible to waterfowl. Timely and controlled water drawdown in the spring exposes mudflat and other habitats and concentrates food resources for shorebirds.

Water-control structures are used to precisely circulate water between an impoundment and tidal waters. This maintains a stable water level within internal impoundment ditches during water drawdowns, providing a unique nursery habitat for estuary fish species while reducing mosquito production. The Ted Harvey south impoundment dike is also being restored to withstand severe coastal storms similar to Hurricane Sandy, by placing fill dirt to increase the height of vulnerable portions of the dike by three feet.

DNREC's Division of Fish & Wildlife staff is using the best available science and innovation to restore these and other habitats and will continue to do so. In the meantime, we invite you to visit and enjoy all the Delaware Bayshore has to offer. **OD** 

JEREMEY ASHE IS THE CONSTRUCTION MANAGER WITH DNREC'S DIVISION OF FISH & WILDLIFE



### **Discover Delaware's State Wildlife Areas** | By Bill Jones

### Little Creek Wildlife Area



EVEN THOUGH the Little Creek Wildlife Area has "little" in its name, outdoor recreation opportunities and abundant wildlife are "big" attractions.

Draped around the old fishing town that bears its name, the Little Creek Wildlife Area is just a short drive east of Dover. From its humble beginnings of 385 acres in 1957, the area has grown to approximately 4,825 acres of forests, meadows, crop fields, tidal marshes and impoundments used by many species of wildlife. The area stretches from Old Woman's Gut north of Marshtown Road to Lewis Ditch south of Pickering Beach Road.

The biggest draw to the Little Creek Wildlife Area is its two brackish water impoundments. A joint waterfowl management/mosquito control venture was initiated in 1961 to "impound" approximately 600 acres of tidal marsh by constructing a dike just south of the Little River. The dike blocked daily tidal flow and the impoundment was seasonally filled with water using pumps on the Little River. Water was excluded during the summer months to allow vegetation to grow and to reduce mosquito breeding sites, with water pumped in to

fill the impoundment by the fall for resting and wintering waterfowl.

The Little Creek impoundment was joined by the 510acre Mahon impoundment along Port Mahon Road on the north side of the Little River in 1966. The costly and limiting pumps have been replaced by modern watercontrol structures used to raise and lower water levels at strategic times during the year to manage for desired vegetation types and habitats for a variety of fish and wildlife species, while also minimizing mosquito production.

These impoundments have always been a bird-watching hotspot, and in the 1970s, a still-popular observation tower was constructed on the Little Creek impoundment to provide a vantage point to view the area's abundant waterfowl and shorebirds. The combination of impoundments and Delaware Bay shoreline along Port Mahon Road provides excellent bird-watching opportunities throughout the year, and dirt roads traversing other sections of the wildlife area offer wildlife-watching and hiking opportunities through forested and upland habitats.

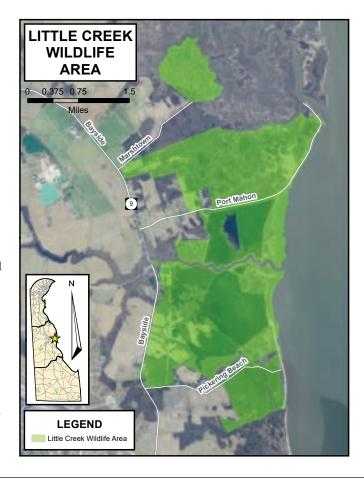
Fifteen waterfowl hunting blinds are maintained on the impoundments and are awarded through a daily lottery at the area's checking station. There are also waterfowl jump shooting opportunities on certain portions of the area. Waterfowl, deer and upland game hunting opportunities are available, with some ac-

cess managed through a daily lottery to fairly manage high hunter demand. More information on the variety of hunting opportunities at the Little Creek Wildlife Area can be found at the checking station or on wildlife area maps available at DNREC's Division of Fish & Wildlife's website by navigating the wildlife icon to "Wildlife Area Maps."

The Little Creek Wildlife Area is also home to the Division's Kent County Hunter Education Training Center, where hunter and trapper education courses are offered throughout the year. Future plans call for building a new observation tower and a Delaware Bayshore Visitors Center highlighting all the area has to offer. A new boat ramp is also in the works that will provide access to the Little River and the Delaware Bay.

A Conservation Access Pass (CAP) is now needed for motor vehicles used to access wildlife areas, with the CAP providing revenues needed to manage and maintain wildlife areas. More information on the CAP can be found on the Division's web page. **OD** 

BILL JONES IS DNREC'S DIVISION OF FISH & WILDLIFE'S KENT COUNTY REGIONAL MANAGER



# econmes

### New Trail to be Built at Fork Branch Nature Preserve

THIS FALL, Governor John Carney was joined by DNREC Secretary Shawn M. Garvin, Kent County Tourism Director Wendie Vestfall, other state and city officials, and members of the conservation community, to break ground for the new Fork Branch Trail in Dover.

The Fork Branch Nature Preserve is one of Dover's last remaining natural areas – a 247-acre property that contains a unique stand of old growth American beech, a wooded stream corridor, and several rare and threatened plant species. The preserve is located at the corner of Kenton and West Denneys roads, along the Maidstone Branch in the St. Jones River Watershed.

The Division of Parks & Recreation will construct, manage, and maintain the accessible, pedestrian-only trail. Construction is expected to be completed by the end of this year or spring of 2018, depending on conditions. The new trail will be 5-feet wide, and loop approximately 1 mile through the pristine preserve providing opportunities to experience native fauna and beautiful landscapes. Depend-





DNREC Secretary Shawn M. Garvin, Jan "Running Dove" Durham, Dick "Quiet Thunder" Gilbert, and Tony "Painted Pony" Durham at the ground-breaking for a new trail at the Fork Branch Nature Preserve.

ing on conditions, the trail may be open as soon as the end of this year.

More trails for walking, hiking, biking, jogging and

related activities have ranked consistently as the highest outdoor recreation need identified by Delawareans throughout the state. The Fork Branch Trail adds to the growing need for recreational opportunities for the city of Dover and Kent County. **OD** 

### Statement of Ownership

Outdoor Delaware	1	2 Publica	5 1	- 8	80	9/14/17
Guerterly		5. Numbe	of las		shed Annually	6. Annual Subscription Price
T. Conquere Making Address of Known Office of Publi DE DEP'TOF Natural Resources at	cation (Not printed (Street	el Co	wtr	el and.	(SPHP)	Beth Shackle
						301-139-9902
B. Complete Malling Address of Headquarters or Gen DATEC. \$9 Kings Highway Dever, DE (1940)						
44	OUREC REINSHIPHONEY OURR, DE 190		r (De A	or leave i	prank)	
	th Shockley WEC Public At I Kings Highw				5 140	1
Managing Editor (Name and complete mailing address	Crowdo shidum	7/4	10.00	5.0	E 1990	'1
10. Owner (Do not leave Stank. If the publication is ow	ned by a corporation, give	the nam	e and s	odreds o	Fifte corporati	on immediately followed by the
<ol> <li>Owner (Do not leave blank. If the publication is ow names and addresses of all stockholders owning or names and addresses of the individual owners. If a</li> </ol>	ir holding I percent or mo owned by a portnership or	other uni	ncorpo	nount of a raised firm	took. If not ow s, plue its name	ned by a cocoration, give the
names and addresses of all stockholders owning of	ir holding I percent or mo twied by a portnership or id by a ironprofit organizal	other uni	bitel an hoospo its nan	nount of a rated firm se and ad	fock. If not ow i, give its name bhess.)	ned by a cocoration, give the
names and addresses of all stockholders owning o names and addresses of the individual owners. If a each individual owner. If the publication is publishe full Name	ir holding I percent or mo twined by a portnership or iid by a iionprofit organizal	re of the r other uni flon, give Complete	bitel an incorpo its nam i Mallin	rount of s rated firm se and ad ng Addre	tock, if not our s, give its name thess.)	ned by a cooperation, give the e and address as well as those of
names and addresses of all stockholders owning o names and addresses of the individual owners. If a each individual owner. If the publication is publishe	ir holding I percent or mo twined by a portnership or iid by a iionprofit organizal	re of the r other uni flon, give Complete	bitel an incorpo its nam i Mallin	rount of s rated firm se and ad ng Addre	tock, if not our s, give its name thess.)	ned by a cooperation, give the e and address as well as those of
names and addresses of all stockholders owning o names and addresses of the individual owners. If a each individual owner. If the publication is publishe full Name	ir holding I percent or mo twined by a portnership or iid by a iionprofit organizal	re of the r other uni flon, give Complete	bitel an incorpo its nam i Mallin	rount of s rated firm se and ad ng Addre	tock, if not our s, give its name thess.)	ned by a cooperation, give the e and address as well as those of
names and addresses of all stockholders owning o names and addresses of the individual owners. If a each individual owner. If the publication is publishe full Name	ir holding I percent or mo twined by a portnership or iid by a iionprofit organizal	re of the r other uni flon, give Complete	bitel an incorpo its nam i Mallin	rount of s rated firm se and ad ng Addre	tock, if not our s, give its name thess.)	ned by a cooperation, give the e and address as well as those of
names and addresses of all stockholders owning o names and addresses of the individual owners. If a each individual owner. If the publication is publishe full Name	ir holding I percent or mo twined by a portnership or iid by a iionprofit organizal	re of the r other uni flon, give Complete	bitel an incorpo its nam i Mallin	rount of s rated firm se and ad ng Addre	tock, if not our s, give its name thess.)	ned by a cooperation, give the e and address as well as those of
names and addresses of all stockholders owning o names and addresses of the individual owners. If a each individual owner. If the publication is publishe full Name	ir holding I percent or mo twined by a portnership or iid by a iionprofit organizal	re of the r other uni flon, give Complete	bitel an incorpo its nam i Mallin	rount of s rated firm se and ad ng Addre	tock, if not our s, give its name thess.)	ned by a cooperation, give the e and address as well as those of
names and addresses of at facilities among a scale individual cover if the publishers is positive fall Name.  RE Out the Markerol Resignors and L	e holding I percent or mo weed by a perimental or of by a ventral organiza in the manusable Confe	re of the trother uniform give Complete	ncopo its nam s Maille	ount of a rested firm or and ac- ing Address Vings F	took if not one to the country of the country of the country one the country one the country of	ned by a cocoration, give the and address as well as those of the cocoration of the co
names and addresses of at social collection comments and addresses of a social collection comments of a social collection of the publishment products that have been addressed more of the publishment publishment publishment and the publishment publishment of the publishment publishment of the publi	ir holding I percent or mo wired by a prospectific organiza- tion of the second organiza- ment organization organiza- ment organization organization of the principle of the second organization of the principle of the second organization of the principle of the second organization of the second organization of the principle of the second organization or the second organization organ	re of the trother unificon, give Complete	89 k	ount of a rested firm or and act ong Addres wings F	took if not own, give to name the sz. )  the sz. )  the sz. )	ned by a cocoration, give the and address as well as those of the cocoration of the co
Ames and obtained of all blockholds owns on Ames and obtained of all blockholds owns of the publication is published. The blockholds own of the published is published to publ	ir holding I percent or mo wired by a prospectific organiza- tion of the second organiza- ment organization organiza- ment organization organization of the principle of the second organization of the principle of the second organization of the principle of the second organization of the second organization of the principle of the second organization or the second organization organ	re of the trother uniform give Complete	89 k	ount of a rested firm or and act ong Addres wings F	took if not own, give to name the sz. )  the sz. )  the sz. )	ned by a cocoration, give the and address as well as those of the cocoration of the co
Ames and obtained of all blockholds owns on Ames and obtained of all blockholds owns of the publication is published. The blockholds own of the published is published to publ	ir holding I percent or mo wired by a prospectific organiza- tion of the second organiza- ment organization organiza- ment organization organization of the principle of the second organization of the principle of the second organization of the principle of the second organization of the second organization of the principle of the second organization or the second organization organ	re of the trother unificon, give Complete	89 k	ount of a rested firm or and act ong Addres wings F	took if not own, give to name the sz. )  the sz. )  the sz. )	ned by a cocoration, give the and address as well as those of the cocoration of the co
Ames and obtained of all blockholds owns on Ames and obtained of all blockholds owns of the publication is published. The blockholds own of the published is published to publ	ir holding I percent or mo wired by a prospectific organiza- tion of the second organiza- ment organization organiza- ment organization organization of the principle of the second organization of the principle of the second organization of the principle of the second organization of the second organization of the principle of the second organization or the second organization organ	re of the trother unificon, give Complete	89 k	ount of a rested firm or and act ong Addres wings F	took if not own, give to name the sz. )  the sz. )  the sz. )	ned by a cocoration, give the and address as well as those of the cocoration of the co
Ames and obtained of all blockholds owns on Ames and obtained of all blockholds owns of the publication is published. The blockholds own of the published is published to publ	ir holding I percent or mo wired by a prospectific organiza- tion of the second organiza- ment organization organiza- ment organization organization of the principle of the second organization of the principle of the second organization of the principle of the second organization of the second organization of the principle of the second organization or the second organization organ	re of the trother unificon, give Complete	89 k	ount of a rested firm or and act ong Addres wings F	took if not own, give to name the sz. )  the sz. )  the sz. )	ned by a cocoration, give the and address as well as those of the cocoration of the co
Ames and obtained of all blockholds owns on Ames and obtained of all blockholds owns of the publication is published. The blockholds own of the published is published to publ	ir holding I percent or mo wired by a prospectific organiza- tion of the second organiza- ment organization organiza- ment organization organization of the principle of the second organization of the principle of the second organization of the principle of the second organization of the second organization of the principle of the second organization or the second organization organ	re of the trother unificon, give Complete	89 k	ount of a rested firm or and act or g Address rings F	took if not own, give to name the sz. )  the sz. )  the sz. )	ned by a cocoration, give the and address as well as those of the cocoration of the co
Ames and obtained of all blockholds owns on Ames and obtained of all blockholds owns of the publication is published. The blockholds own of the published is published to publ	ir holding I percent or mo wired by a prospectific organiza- tion of the second organiza- ment organization organiza- ment organization organization of the principle of the second organization of the principle of the second organization of the principle of the second organization of the second organization of the principle of the second organization or the second organization organ	re of the trother unificon, give Complete	89 k	ount of a rested firm or and act or g Address rings F	took if not own, give to name the sz. )  the sz. )  the sz. )	ned by a cocoration, give the and address as well as those of the cocoration of the co
Ames and obtained of all blockholds owns on Ames and obtained of all blockholds owns of the publication is published. The blockholds own of the published is published to publ	holding i persent or more holding i persent or more and they a persent or more and they a persent or more and they a persent or pers	re of the content of	reception of the country of the coun	on Mone- or	took if not one took took to the took to the took took took took took took took too	end by construction, the the world at these of an end of the sa well at these of the sa well at the sa well at the sa well at the sa well at the same of the same
Amen and obstesses of all shouldness arming on and historial towards for pollutions a politic and historial towards. The pollutions a politic field blane.  Bit Sales.  Bit Sales African I. Bit Signers's and d.  11. Known foundations. Managemen, and other Sea. Chem Securities. Trans. closel bit.  12. The States offer competions by nonprofit argument.  The States of the competition by nonprofit argument.	holding i persent or more holding i persent or more and they a persent or more and they a persent or more and they a persent or pers	re of the content of	reception of the country of the coun	on Mone- or	took if not own toward, give its name toward, give its name toward, give its name toward, and toward,	end by construction, the the world at these of an end of the sa well at these of the sa well at the sa well at the sa well at the sa well at the same of the same

Extent and N	sture of Circulation	Average No. Copies Each Issue During Preceding 12 Worths	No. Copies of Single Issue Published Nearest to Filing Det
a. Total Numb	or of Copies (Net press run)	1,300	1,200
	(1) Mailed Outside-County Paid Subscriptions Stated on PS Form 3541 (Include paid distribution above nominal rate, advertiser's proof copies, and exchange copies).	608	551
and Outside	(2) Mailed in County Part Subscriptions Stated on PS Form 3541 (Include paid distribution above nominal rate, advertiser's priof capies, and exchange capies)	510	445
	(1) Paid Distribution Outside the Malls Including Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid Distribution Outside USPS®	0	0
	(4) Paid Distribution by Other Classes of Mail Through the USPS (e.g., First-Class Mail*)	0	0
c. Total Paid	Distribution (Sum of 156 (1), (2), (3), and (4);	1118	996
d. Free or Nominal Rate Distribution (By Me2	(1) Free or Nominal Rate Outside-County Copies included on PS Form 3541	4	5
	(2) Free or Nominal Rate In-County Copies Included on PS Form 3541	0	3
and Outside the Mail	(b) Free or Nominal Rate Copies Mailed at Other Classes Through the USPS (e.g., First-Class Mell)	0	0
	(4) Free or Nominal Rate Distribution Outside the Mail (Carriers or other means)	0	0
e. Total Free	or Nominal Rate Distribution (Sum of 18d (1), (2), (3) and (4))	4	8
f. Total Distri	button (Sum of 15c and 15e)	1122	1004
g. Copies not	Distributed (See Instructions to Publishers M (page KI))	200	200
h, Total (Sum	of 15f and gt	1322	1204
	f by 15/18maz 100)	99.6	99.2
	ng electronic copies, go to line 16 on page 3 if you are not claiming electronic copies, s	xip to line 17 on page 3.	
Electronic Co	py Circulation	Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Da
a. Paid Dec	ronic Copies		
b. Total Paid	Print Copies (Line 15c) = Paid Electronic Copies (Line 16e)		
c. Total Priv	Distribution (Line 155) = Paid Electronic Goles (Line 16a)		
d. Percent P	aid (Both Print & Electronic Copies) (16b divided by 16c × 100)		
l certify t	hat 50% of all my distributed copies (electronic and print) are paid above a nomin	all price.	
Publication o	Statement of Ownership		
	cation is a general publication, publication of this statement is required. Will be printed	Public	after not required.
	1:-1:: 1:: 1:: 1:: 1:: 1:: 1:: 1:: 1:: 1	Tox	ala.
-granze an	o - me or como, roundres, duariess Manager, or Owner	De	-
Elilla	D. Gelley . editor.	6	114117

### **Delaware Bayshore Initiative** | by Anthony Gonzon

### Merry Christmas Bird Count

WINTER CAN BE a difficult time for many folks to get outside and explore. Cold temperatures, wind, rain or snow might keep you inside. The busy holiday season can leave you little time to get away. Later mornings and ear-

lier evenings provide less opportunity to get off the beaten path. But, if you can bundle up and get

outside, there are some great opportunities awaiting you on the Delaware Bayshore. This winter, why not make it a goal to give back to the Bayshore and participate right now in an exciting program known as the Christmas Bird Count?

Way back in 1900, several birdwatchers gathered to simply count birds on Christmas Day. This was the start of one of the greatest citizen scientist programs and still continues 118 years later, supported by the National Audubon Society.

Participants head afield from December 14 through January 5 to count birds within a 15-mile diameter circle. Each Christmas Bird Count (CBC) circle is only covered for one day during that period and many areas have multiple circles, none of which really overlap. Every bird is counted and reported, providing valu-

able information on population trends, distribution and seasonal abundance.

A free program, there are

five CBCs that cover much of Delaware's Bayshore and anyone is welcome to participate. The Wilmington Count includes the northern part of the Bayshore, while the Middletown, Bombay Hook, Milford and Prime Hook/Cape Henlopen Counts are almost entirely within the Bayshore.

You can learn a lot more about CBCs, including how to find one near you, at www. christmasbirdcount.org. No time to do it this year? Then get it on your calendar now for the 119th year in late 2018.

Whether you are an experienced birder or someone who



DOUG NORTON

just wants to get started, doing a count is very rewarding and adds great memories to a busy holiday season. Distributed across the Bayshore region, a count is always within range. Participate alone, with friends, your spouse, your parents or children, or even with complete strangers — everyone can be a part of the counts. Contribute in one count or do them

all, but whatever you choose, take some time to unwind and enjoy our Delaware Bayshore.

### OD

ANTHONY GONZON IS THE COORDINATOR OF THE DELAWARE BAYSHORE INITIATIVE IN THE DIVISION OF FISH & WILDLIFE.





### Fishing | Bruce Cole





ROM THE SHALLOW WATERS of a small backyard pond to the deep waters of the Atlantic Ocean, fishing is an exceptional way to enjoy nature and spend quality time together with family and friends outdoors. For the kids, it's just plain fun. In addition to being entertaining, there is always a certain amount of anticipation and delight that a big one, or "big'un" in fishing slang, might be caught any minute. When that "big'un" bites and is hooked, the fight begins. There's nothing quite as exciting as feeling the sensation of a "big'un" pulling at the end of the line; it's an adrenaline rush for both kids and adults.

As adult spectators, our minds go into overload as we are (at the same time) excited, thrilled, worried and nervous when watching a youngster battling a big fish. The excitement and nervousness grows with each passing second. The moment the fish is landed and is no longer in danger of getting away from the young angler, pure joy, awe and relaxation floods one's mind and body. Then the big beaming smiles emerge from everyone. The accomplishment and sense of pride in the young angler is contagious.

To help celebrate these "big'uns," officials with the Delaware Sport Fishing Tournament have added a new youth division for young anglers age 15 and under. DNR EC's Division of Fish & Wildlife has lowered the trophy fish minimum qualifying sizes for each species. With the decreased minimum size requirements in the youth division, young anglers will have a greater chance to be rewarded for those "big'uns." All species recognized in the tournament's adult division will be eligible for youth division recognition and awards.

As with the current tournament, fish entered in the tournament must be weighed at an official Delaware Sport Fishing Tournament Weigh Station which can be found at most tackle shops.

There is also a new youth division of the Live Release Award program for conservation minded young anglers who choose to

return their trophy catch unharmed, immediately after landing and measuring for length. This measurement must be verified by a witness who signs the Live Release Award entry form.

Young anglers who submit an application for their trophy catch receive a colorful citation, showing the type of fish they caught, as well as a highly collectible award lapel pin. The citation's colorful fish illustrations are reproductions of original paintings by the artist Duane Raver, Jr., and are suitable for framing to proudly display their prowess as a young angler.

The Delaware Sportfishing Tournament is an annual program sponsored by DNERC's Division of Fish & Wildlife, which recognizes anglers for outstanding and noteworthy catches. The tournament has grown to include 15 species of freshwater and 30 species of saltwater fish eligible for recognition. The Delaware tournament's origins date back to the late 1930s. Eighty years later, the Delaware Sport Fishing Tournament is still a very popular program with anglers.

All fish entered must be caught in a sporting manner with hook and line.

The Sport Fishing Tournament and the Live Release awards programs are open to the public. There is no entry fee.

The Division of Fish & Wildlife wishes good luck to all our anglers, especially the younger ones (with adult supervision, of course).

For a list of Sport Fishing Tournament and Live Release eligible species, minimum size requirements, rules, and official Delaware Sport Fishing Tournament Weigh Stations visit: http://www.dnrec.delaware.gov/fw/Fisheries/Pages/RecreationalFishing.aspx OD

Bruce Cole is a Division of Fish & Wildlife, Fisheries Biologist with a lifelong passion for recreational fishing

### Hunting | Bill Jones '



ABOUT THIS TIME OF YEAR, the major hunting season openers have come and gone. Hopefully freezers are full of venison, duck breasts and maybe a goose or two. If you're looking for some potentially fast-paced late season hunting action, consider going after mourning doves.

The mourning dove is the most abundant and most harvested migratory game bird in the United States. Since they are migratory and are covered under the Migratory Bird Treaty Act, federal and state regulations help ensure their populations thrive while still providing hunting opportunities.

Delaware belongs to the Eastern Mourning Dove Management Unit and DNREC's Division of Fish & Wildlife is an active participant in the national management plan which has several components. A banding program was initiated in 2003, and each year staff band doves in July and August. Recovery of these bands, primarily from hunters, has helped to improve the understanding of their population biology and to estimate the effect of hunter harvest.

Most hunters know they have to get their Harvest Information Program (HIP) number before they can go after any migratory critters. Surveys of registered hunters in this program provide crucial data for obtaining reliable harvest estimates. This is why it's so important for hunters to respond to these surveys when asked.

The mourning dove is a common breeding resident with an unusually long breeding season from late February through mid-September. They have a 28–30 day nesting cycle with a clutch size of two. Development of the young is pretty remarkable as they progress from squab to fledgling in about two weeks. Although doves winter throughout much of their breeding range, the majority winter in the southern U.S., Mexico, and south through Central America to western Panama.

Most of the excitement and participation in dove hunting centers around the opening day of the first split at the beginning of September. Shotgunners are chomping at the bit since they haven't been hunting anything for many months. Opening day picnics are combined with dove hunts to set the stage for a new season. The Division of Fish & Wildlife plants sunflowers on several of its wildlife areas to provide hunting opportunities. The sunflowers are mowed to scatter seed and attract the doves to the area. Doves are basically seed eaters that prefer open ground with areas to get water and grit. Throw in a handful of places for the birds to sit, like power lines and a few dead snags, and you have the potential for doves to be around.

After the first couple of weeks, the interest in dove hunting starts to wane as birds catch on and other seasons kick in. The last split of the season this year runs through Jan. 13, 2018. That's when some scouting can reveal some real honeyholes. Farmers by this time have harvested most of their corn and soybeans and the waste grain in these fields can provide the food the birds are looking for.

At this time of year, migrant birds from northern states mix with year round residents and locals that haven't taken the plunge south yet. Population numbers may be even higher than back in September. Most wildlife areas allow late season dove hunting without a permit but hunters must realize that other types of hunting will be occurring at the same time.

The stage is set for some fast-paced wing shooting, provided you do your homework. Just be prepared to eat some humble pie for dessert with these nimble fliers. **OD** 

BILL JONES IS THE KENT COUNTY REGIONAL WILDLIFE MANAGER AND PRIVATE LANDS BIOLOGIST — AND AN AVID HUNTER.



# Syttdoor Delaware

